the PULSE
BOSTON, MASS. JULY, 1961
NEW ENGLAND DEACONESS HOSPITAL

600 VISITORS AT OPEN HOUSE PROGRAM CELEBRATE 10TH ANNIVERSARY OF CRI

SCIENTISTS CONFER — Dr. Detlev W. Bronk, left, and Dr. Shields Warren meet in Dr. Warren's office after Dr. Bronk gave principal talk in Joslin Auditorium in program marking 10th anniversary of CRI.

OPEN HOUSE — Mrs. Elaine O'Brien discusses experimental neuropathology for visitors to CRI.

Six hundred enthusiastic visitors attended the Cancer Research Institute's Open House on Tuesday, June 20, helping to celebrate its tenth anniversary.

Tours of the Institute began at 9:00 a.m. and from then on many hospital employees, medical staff members, students, visitors, and out-of-town guests toured the laboratories in small groups. The guides, researchers from the staff of the CRI, explained the work being done in the various departments.

After the Open House, employees of the Institute were honored guests at dinner at Longwood Towers. At the head table were Mr. and Mrs. R. D. Lowry, Mr. and Mrs. Francis W. Capper, Dr. and Mrs. Richard Cattell, and Dr. James Haggarty, chief of the Research Grants Division of the National Cancer Institute, Bethesda, Maryland.

After dinner, Dr. Detlev W. Bronk, President of the Rockefeller Institute and President of the National Academy of Sciences, addressed a capacity audience in Joslin Auditorium on "The Humane Values of Science".

Dr. Bronk's long experience in science, research and teaching has led him, he said, to recognize the essentiality of human ethics and morality as an intrinsic part of a good scientist's philosophy. Even though science has been able to lengthen man's life span greatly, it has often neglected to bring about the true well-being and happiness of the man to whom added years have been given, he explained.

Cancer Research Institute personnel were on hand all day to explain the work they were doing to visitors at the tenth anniversary open house. In the CRI basement, tours were guided through the isotope suite, where X-ray diffraction and fluorescence, X-ray emitting apparatus used for studying the effect of radiation on biological systems, the Gamma Ray Spectrometer and Geiger-Mueller Tube Operation were discussed and explained. Also in the basement, the Photographic Suite, the shop for design and construction of research apparatus, and the ultraviolet microscope were shown.

On the first floor, visitors were guided through the Cancer Control unit, the Business office, and histochemistry, biochemistry, hematology, and pathology laboratories.

On the second floor the offices of the Harvard Cancer Commission and the CRI library were displayed. In the biophysics laboratory on this floor, the use of I-131, or radioactive iodine, in treatment of patients was explained. Various laboratories showed the isolation of cancer cells from the blood, the life span in relation to radiation, and the dual role of radiation in causing and curing cancer.

Rabbits and hamsters were the main attraction on the third floor. In one of the operating rooms, the production of metastasis of human cancer in hamsters' lungs was explained. These animals are remarkably well-cared-for, and the cleanliness of their cages and rooms was attested to by the fact that

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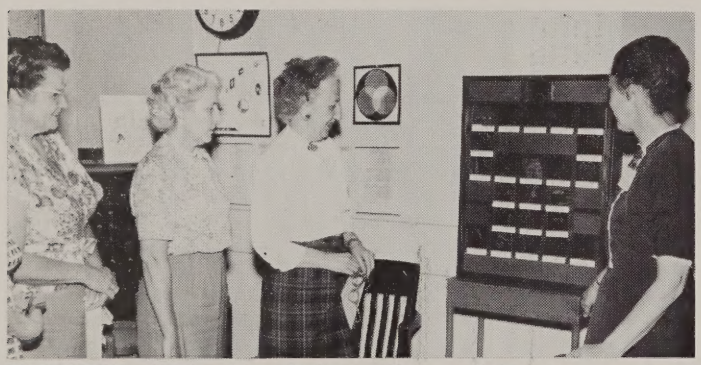
VISITORS ENLIGHTENED — John Larrabee, left, describes X-ray department in CRI for 10th anniversary visitors.



RESEARCH AIDS — Mrs. Kathryn Haley, right, shows colored slides taken with ultraviolet microscope.

SIAMESE TWINS — Room containing mice which have been joined surgically is explained by Paul Maguire, center, at CRI Open House.

NEW THRIFT SHOP OPENS OCT. 2

October 2 is opening date for the new Thrift Shop.

Wait until you see it — larger, more efficient and newly decorated, the shop will be located in the old Deaconess Building with its own private entrance on Pilgrim Road.

Mrs. Smedal and her salesladies will offer wonderful bargains as always. Co-chairmen with Mrs. Smedal will be Mrs. Wendell Hiltabrandt and Mrs. Laurence Dakin.

CRI OPEN HOUSE

(Continued from Page One)

the washroom area for animal room equipment contains the most modern facilities available for animal equipment cleansing.

On the fourth floor, more animals, mostly rats and mice, could be seen. Surgical Siamese twins are created here and then used in cancer studies involving radiation of one of the "twins". Experimental Neuropathology, Radiobiology, and a Radioactivity Counting Room were also of interest. But the rooms which drew the longest looks and greatest delight were the animal rooms, where white mice in various stages of development could be seen. Also seen were special breeding rooms, nursing rooms and post-operative rooms where these well-kept animals live in air-conditioned splendor and are soothed by the strains of Mantovani.

Anniversary Sidelights

An interesting sidelight to the tenth anniversary celebration of the CRI is the fact that two donations were sent to Dr. Shields Warren, Scientific Director, for use by the Institute. Each was a direct result of the open house. Many people, who before did not know of the valuable work undertaken there, were awakened to the knowledge that there are many people all over the world trying to find the cures for all types of cancer. Money is necessary to the success of any research program, and the open house helped to make some people feel more a part of our cancer research program.

The large turnout of hospital employees at the anniversary program was most heartening. Since the Institute is across the street from the main body of the Deaconess Hospital, many employees have never seen anything of the building except the Employees' Health Clinic on the first floor. CRI was most happy to see the large groups of interested nurses, technicians, maintenance and housekeeping personnel, clerks and secretaries who toured the facilities.

The animal floors of the Institute were the most popular. All who visited the fourth floor were surprised to find it odorless due to expert care and air conditioning. Piped-in music to calm and to accustom the animals to sound was another impressive feature.

Another popular feature was the Isotope Department in the basement. The care and handling of radioactive materials, how they are shipped and stored, and how ultimately they are ingested in the form of "atomic cocktails" was most absorbing. To the many who had heard of "atomic cocktails", learning process of their manufacture and possible benefit to the patient was the most exciting bits of information received.

We at the Deaconess Hospital wish to include our sincerest congratulations along with Dr. Warren's to all the personnel at the CRI who helped make the event the success it was:

"We can all be justly proud of our tenth anniversary celebration. It could not have been successful without the enthusiastic help of all. The number of visitors, their interest, and your own interests in one another's work and exhibits emphasize the worthwhileness of the effort made. Some of you had a much heavier share of the load than others: all saw it through effectively and well. If the CRI can have as good people in the future as up to now, we should make even more progress toward solving the baffling cancer problem".

SHIELDS WARREN

1961

Then....

GROUND BREAKING — Dr. Shields Warren, scientific director, breaks ground for the Cancer Research Institute in June, 1950. The completed building was dedicated one year later.

CANCER RESEARCH INSTITUTE PROGRAM TO MARK TENTH ANNIVERSARY ON JUNE 20

CRI BUILDING — The Cancer Research Institute as it now appears. Inside are the laboratories and equipment, the research skills and dedication to give new hope to present and future cancer victims.

...And Now

CANCER RESEARCH INSTITUTE

OF THE

NEW ENGLAND DEACONESS HOSPITAL

194 PILGRIM ROAD

BOSTON, MASSACHUSETTS

1951 - 1961

An all-day program to celebrate the tenth anniversary of the New England Deaconess Hospital's Cancer Research Institute will be held in the CRI on June 20, 1961.

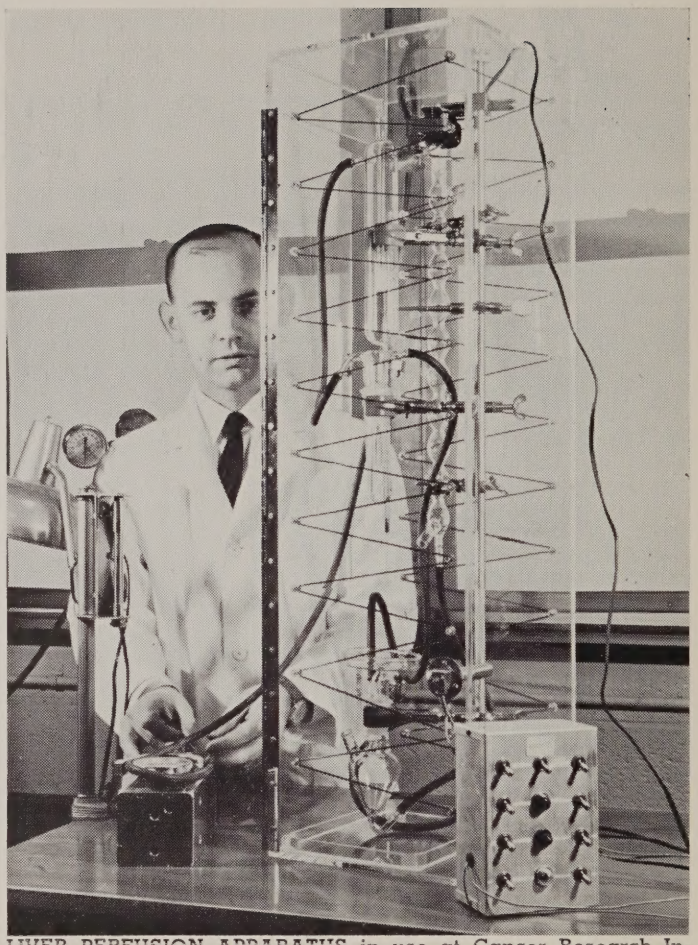
The staff of the Institute cordially invites the staff, personel and friends of the hospital to attend this program, which will begin with an Open House at the Institute from 9:00 a.m. to 5:00 p.m. The Open House will feature formal exhibits and demonstrations on specialized equipment in each of the departments of the Institute. There will be guided tours for those who wish to see every department and to learn about the work done in each. Personnel will be on hand in each department to meet and talk with those interested in a particular field.

The various departments of the Institute which can be seen are the Cancer Control Unit, Business Office, Biochemistry, Hematology, Histochemistry, Library, Biophysics, groups in Experimental Pathology, X-ray Diffraction, Radiobiology, Isotope, X-ray Therapy, Photography, Machine Shop, Ultraviolet Microscopy, and the floors which house the Animal Farm and a number of animal operating rooms.

At 8:15 that evening, Dr. Detlev W. Bronk, President of the Rockefeller Institute and President of the National Academy of Sciences will give an address in the Joslin Auditorium. Dr. Bronk, a leading authority on space, is one of President Kennedy's principal scientific advisors. In addition to his membership in many learned societies here and abroad, he was recently made a member of the Soviet Academy of Science. A former president of Johns Hopkins University, Dr. Bronk's experience in relating science to the humanities has been practical as well as theoretical. His subject will be "The Humane Values of Science".

It was on June 5, 1951, that the dedication ceremonies for the newly constructed Cancer Research Institute were held. The Institute, unique in that it combines under one roof cancer research, atomic research, cancer control and cancer diagnosis, was the logical development of the Deaconess Hospital's long interest in cancer problems and the care of cancer patients.

Today, the Cancer Research Institute emphasizes the four essential elements in the fight against that disease — diagnosis, care of the sick patient, control of cancer and pure research. Usually a cancer research project of such proportions is carried on in the medical schools of large universities rather than in connection with a private hospital. But as specialization focused on the care of the cancer patient, it became apparent to the staff that correlation of diagnosis, care, control and research were the logical development in a comprehensive cancer program.



LIVER PERFUSION APPARATUS in use at Cancer Research Institute for study of the metabolic functions of the liver.

The Cancer Research Institute was made possible by a grant of $485,000 from the United States Public Health Service, by $25,000 for radio-isotope facilities from the Godfrey M. Hyams Trust, $5,000 from friends of the Deaconess Hospital, and gifts of land and other facilities. Staff doctors of the Deaconess and friends raised the funds for the spacious Joslin Auditorium located on the second floor of the CRI, inspired by a gift of $25,000 from Dr. and Mrs. George Averill of Waterville, Maine.

Today, the Cancer Research Institute is financed by a number of contracts and grants which add up to a total annual budget of approximately $400,000. The largest single contract is from the U.S. Atomic Energy Commission in the amount of $299,000. Thus while a part of the New England Deaconess Hospital, the Institute is of no expense to the hospital or its patients.

It may seem strange to combine research in radiation with research in cancer, but the two go hand in hand. The scientific discoveries that began about the turn of the century gave us x-rays and radium. These were used increasingly in the treatment of cancer. In the early years about all that was known about the use of radiation was its ability to cure certain types of cancer and to control or slow down the growth of some other types. The doctors and technicians pioneering in the use of radiation were then to discover that this friendly tool could also be a foe; it could burn tissues so severely that complete healing sometimes never took place; it could cause cancer as well as cure it. In more recent years, and with the use of radioactive isotopes, we now find that doses of radiation can cause various body disturbances, some minor, some serious. But, the good to be derived from radiation is so vital that we must increase our knowledge of how to avoid or to counteract the damage it causes.

YOU ARE CORDIALLY INVITED TO ATTEND THE

TENTH ANNIVERSARY PROGRAM OF THE

CANCER RESEARCH INSTITUTE

TUESDAY, JUNE 20, 1961

OPEN HOUSE 9:00 A.M. - 5:00 P.M.

EVENING LECTURE 8:15 P.M.

DR. DETLEV W. BRONK

President, the Rockefeller Institute

President, the National Academy of Sciences

"THE HUMANE VALUES OF SCIENCE"

JOSLIN AUDITORIUM

Such a complex and enigmatic problem brings strange bedfellows to CRI — pathologists, hematologists, biochemists, biologists, veterinarians, physicists — each contributing his part in solving the mysteries of what minute changes may be found within the body which may relate to the presence of cancer, its cause, or its cure, and in understanding the many changes caused by radiation and how to prevent or counteract the undesirable changes.

Along with increased knowledge about the nature and use of radiation came the development of a new technical field — that of electronics. This has enabled engineers and technicians to develop complex machines which allow us to detect and measure the nature, amount and intensity of radiation with an accuracy and ease heretofore impossible. There are also many machines which perform chemical, physiological and physical tests of both normal and abnormal chemical constituents of the human body which often could not be demonstrated by the manual methods previously developed. The operation, maintenance and adaptation of these machines give an idea as to their complexities: spectrophotometer, x-ray diffraction unit, color-translating, ultra-violet microscope, well counter, scintillation counter, decade Geiger counter, Victoreen multi-channel analyzer.

The heroes of the Institute are in its animal colony. These mice, rats, rabbits and hamsters give evidence of the effectiveness of the application of various types of treatment of cancer, evidence of causations of cancer, the impact of treatment of cancer by radiation, and methods to counteract the adverse effects of radiation. The importance of the contribution of the animals to the Institute's goal is so great that strictest controls are taken for cleanliness, overall health and comfort of each and every animal.

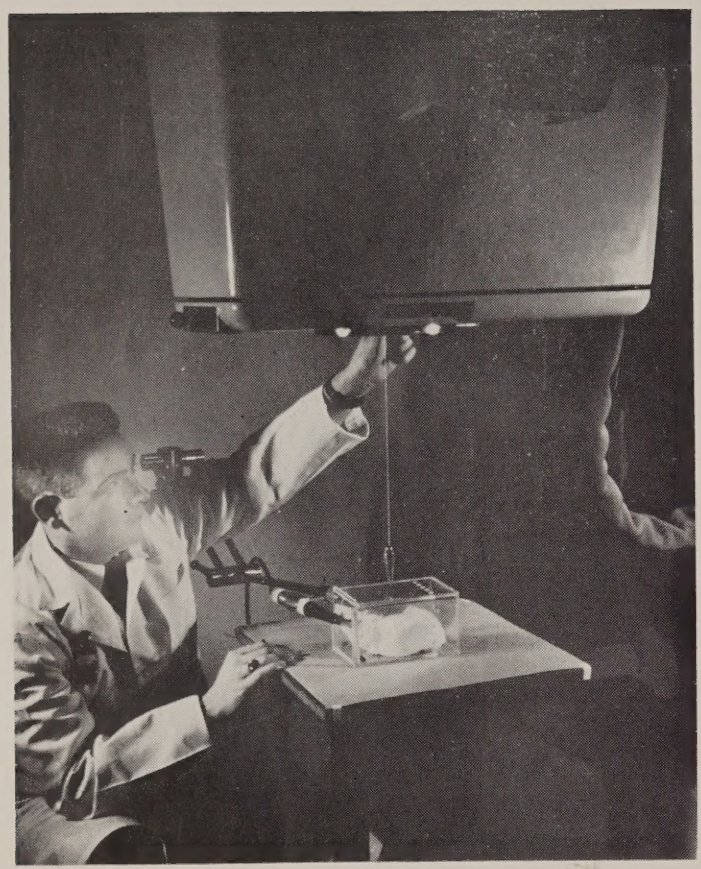
In 1959 the Cancer Research Institute expanded two additional stories to provide more facilities for basic research and more flexibility in use of animal facilities. Cancer experiments can now be conducted on a larger scale and over a longer period, a factor of prime importance in the studies of radiation effects on animals.

The Cancer Research Institute employs 65 persons, including 14 senior scientists, all of whom are specialists in a particular field of science. Dr. Shields Warren, the hospital's Pathologist-in-Chief, and Professor of Pathology at Harvard Medical School, is the Scientific Director of the Institute. Many of the Institute's senior scientists also are members on the staffs of nearby colleges and medical schools.

During the past ten years, reports of the research done at the CRI by its staff yield a total of 298 articles in medical or technical journals. Requests for copies of these articles daily come from all parts of the world.

The Cancer Research Institute is proud to celebrate its tenth year of existence with such a rich and varied past to attest to its achievements. It has attacked, and will continue to attack, the problem of cancer and radiation from diverse angles in a concerted effort to help rid the world of this dreaded riddle of science.

The Cancer Research Institute hopes that you will be able to attend its tenth anniversary celebration.



ANIMAL STUDIES — A most important research function is carried out at CRI as a technician irradiates an animal with a 250KV X-ray machine.

UNIQUE APPARATUS — Polaroid Color-Translating Ultra Violet Microscope enables researcher to study cancer tissues.

Cancer

Research

Institute

1951-1961

PROGRESS THROUGH DONATIONS — Funds for the CRI research program and equipment come from many sources. Here two representatives from Aid for Cancer Research make a gift presentation to Dr. Shields Warren. The gamma ray spectrometer made possible by the funds stands in the background.

25TH ANNIVERSARY CELEBRATION — Holding its reunion on May 19 was the Nursing School Class of 1936. Events included a chapel service, business meeting, tour of the hospital, tea in Harris Hall and dinner at the 1200 Beacon Street Hotel.

Bowling Picnic Howling Success

After a week's delay due to the weather, the annual Bowling Picnic was held on Thursday, June 15, at Houghton's Pond in Blue Hills.

Softball was played before dinner, which consisted of large servings of steak or lobster, corn on the cob, and other delicious outdoor victuals. After dinner, short skits were presented to the audience by members of two bowling teams, and each was a howling success. (See photos below.)

Here and There

Among those fortunates making tours of Europe this summer are Bertha Yager, Mary McGovern and Doris Longmire, all of the Nursing Department.

Tanned from a week's trip to Bermuda is Lillian Dragma, L.P.N.

Doshia Dockett, ward secretary, was a representative to a religious education conference in Northfield in early July.

Rose Baron was presented with a silver coffee service and silver candlesticks at a bridal shower in her honor given by Marjorie Burns, Associate Director of Surgeries. Pauline Lazzara gave another shower for Miss Baron in her home in Chelmsford. Laurette Proulx follows Miss Baron as Assistant Supervisor of the Recovery Room.

Charles Spalding, Russell Cowing, and their wives recently spent a week in Las Vegas, where Charlie gave a talk to the Health Physics Society, of which Russ is executive secretary.

Walter Emery, laundry manager, has been elected president of the New England Institutional Laundry Managers Association.

Miss Effie May Minger, Chief Dietician, recently left for a European vacation which took her to London the week of July 7 to attend the International Dietetic Congress.

Miss Winger flew to Lisbon, and from there visited in Italy and Switzerland before going to London for the final week of her travels.

Librarians Elect Mrs. Keany

At the Spring Meeting of the Massachusetts Library Association, held at West Harwich, Mrs. Janet C. Keany, our Medical Librarian, was nominated President of the Mass. Hospital Libraries Group for 1961-1962, having served as Vice-President during the past year.

At this meeting, Mrs. Keany served as a Group Discussion Leader for a Hospital Library Case Study.

Mrs. Keany calls to the attention of Staff Members the new books and journals which have been and are being added to the growing Medical Library collection. A New Books list is currently being distributed, or is available in the library. Statistical proof of the rapid growth of the Horrax Memorial Library during its two years in existence may be seen in the following figures:

Medical Journal Subscriptions:	1959—61 subs.	
	1961—76 subs. (List available)	
Attendance.	1959—(average)	6-8 patrons per day
	1961—(average)	50-60 patrons per day
Interlibrary Loans:	1959—22.5 monthly	
	1961—98.5 monthly	
All Loans:	1959—913	
	1961—(5½ month period only)—978	

DEPARTMENT OF LABORATORIES

The Department of Laboratories at the New England Deaconess Hospital consists of five main units — Clinical Pathology, Pathological Anatomy, the Blood Bank, Intravenous Therapy and Radium. The laboratories long ago outgrew their original quarters in the Deaconess basement and on the Deaconess Roof and Baker 1. They are now mainly located in the basement and first floor of Palmer building, in a more consolidated pattern for maximum efficiency.

The Department serves several functions in the hospital: The provision of accurate diagnostic facilities, the provision of adequate data to aid in the return of the patient to health, the training of pathologists and technologists, and research in the field of pathology.

Clinical Pathology conducts basic tests and gives reports in urinalysis, hematology, chemistry, basal metabolism, and electrocardiograms. On Deaconess 1, tracing of heart beats, called electrocardiograms, so important in diagnosing various heart conditions, are made, as well as basal metabolism tests. In the Palmer basement, among a maze of complicated pieces of apparatus and myriads of bottles, each one filled with a special accurately prepared chemical reagent, the various chemical analyses are carried out. Palmer 1 houses the hematology and bacteriology subdivisions of Clinical Pathology.

In all, over 100 different kinds of tests on various body fluids are conducted daily to assist the physician in the diagnosis and treatment of the patient's condition. These range from the simple measurement of hemoglobin in the blood, which is done with a sensitive photocell colorimeter that can measure the depth of color more precisely than the human eye, to the complicated gas analysis of blood done on patients in diabetic coma with a Van Slyke apparatus.

Some of the laboratory tests are long analytical procedures, requiring as many as ten or twelve separate steps and involving the use of many pieces of glassware such as flasks, bottles, pipettes, funnels, slides, and coverslips. The process of making ready the glassware to be used each day requires special chemical cleaning methods, so that no traces, not even microscopic, of any substance may remain as a contamination to interfere with accurate results.

The laboratory technologist must posses a wide variety of technical skills to be able to differentiate the pathological finding from the normal. She must be alert to any deviations from the normal that may be a danger signal to the doctor, who in turn interprets her laboratory findings.

Recent years have characterized a steady development of complexity in the laboratory procedures demanded. Whereas in the past many of the tests were relatively simple, such as determination of urinary protein or blood sugar levels, now the laboratory is concerned not only with these but far more complex procedures, such as determinations of enzymes in the blood, related to the transformation of amino acids or the uptake of radioactive isotopes by red blood cells. Blood counts are now performed by a device known as the "Coulter counter", saving valuable technical time. The "Autoanalyzer" is capable of rapidly and accurately determining, with minimal assistance from the technician, the amount of various substances, such as sugar, in samples of blood.

In the Pathological Anatomy unit of the Department of Laboratories, surgical and postmortem human material is carefully examined and studied. Then the pathologists select representative parts of the whole and these parts are put through a series of detailed processes and are made into microscopic slides by technicians. These slides, of slices of tissue 10 times thinner than a hair, are studied under the microscope, discussed by pathologists at a conference, and finally diagnosed.

Postmortems, performed by this group of pathologists, reveal the adequacy or inadequacy of treatment the patient has received, and also disclose the course of various diseases, and their modification by therapy so that future patients will benefit from the past. Specialists in diabetes have been able to increase substantially the life-span of the diabetic patient in part through information which has been gathered from the hundreds of postmortems recorded by our pathologists.

In the Pathological Anatomy laboratories, which are located on Palmer 1, the use of four automatic tissue processors every night assists with the technical preparation of slides from surgical specimens.

With the continual changes in the practice of medicine, there has been a demand and a necessity for increased assistance from these laboratories. The work load has greatly increased in recent years, but the percentage increase actually represents only a part of the added load, inasmuch as a high proportion of the procedures are increasingly of a complicated and time-consuming nature. Many tests which were of a research type only a few years ago are now ordered as routinely as a blood count.

The difficulty of maintaining high efficiency and accuracy during a period of rapidly increasing work loads and the continuous development of new procedures is not always appreciated. One of the problems, for example, concerns the addition and training of laboratory technicians. One solution has been to turn to new and often expensive equipment and to mechanization wherever possible. The other solution is to have the hospital train technicians. Some are trained in the laboratories. Also, the Deaconess has a joint program with Northeastern University in which the University sends students to the Deaconess for practical laboratory experience during their recurring work periods. In return, the hospital receives the benefit of their assistance in the laboratories.

The Blood Bank, another unit of the Department, is located away from heavy hospital traffic on the sixth floor of the Palmer Building. The varied activities of the Blood Bank are directed to supplying blood to any patient in need of a transfusion. Obtaining blood from a donor is only a small part of the whole program. All blood must be grouped and the RH and other special factors determined. After this test is completed, each pint of blood the patient is to receive is checked with the patient's own blood. Still another precaution before the blood is ready to send to the patient floor or the operating room is to filter the blood to make sure there is no clot or fibrin that could be introduced into the tubing or patient.

Intravenous Therapy, another unit of the department, is located on Central V. A team of over 10 registered nurses give 24-hour coverage in the administering of blood transfusions and intravenous feedings to patients. These specially trained nurses also take morning blood samples, and administer Levine and Miller Abbott tubes, which are used for internal diagnostic purposes.

The Radium unit of the Department is concerned with the safe handling of different invaluable yet potentially dangerous means of treatment for cancer patients. It aids in the planning of dosage required and in the protection of medical and hospital staff. The radiation engineers associated with the Department have become New England's recognized experts in the planning of radiation protection, both for radium and for X-ray.